

Figure 1

$I\varphi$

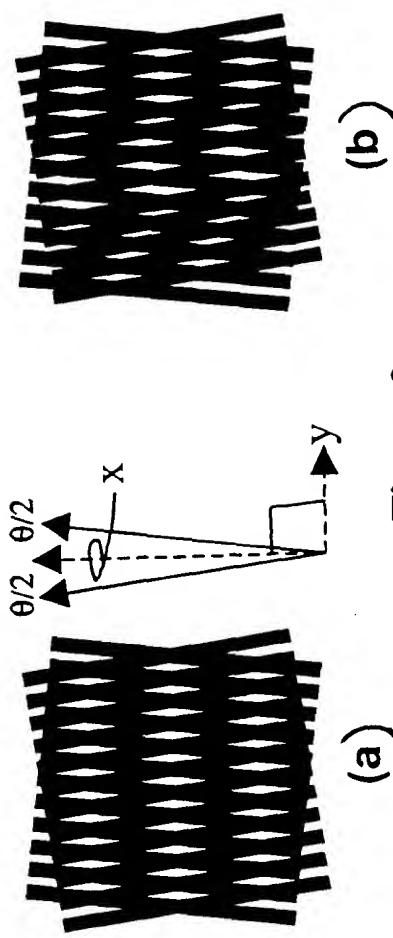
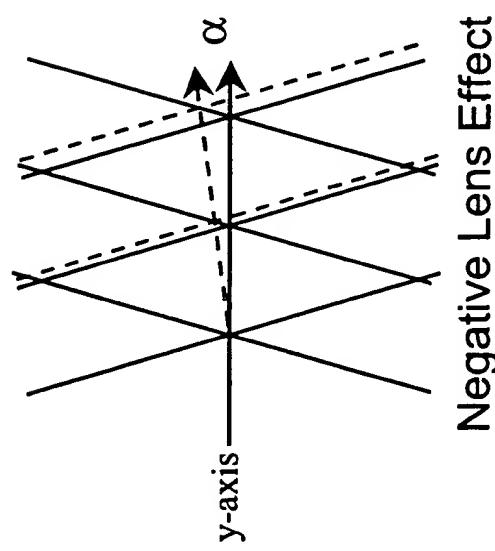


Figure 2

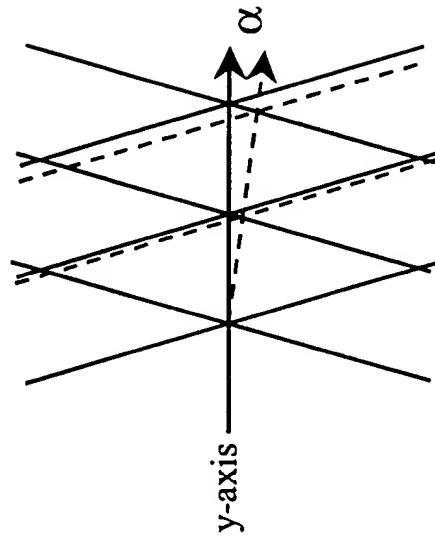
(b)

(a)



Negative Lens Effect

(a)

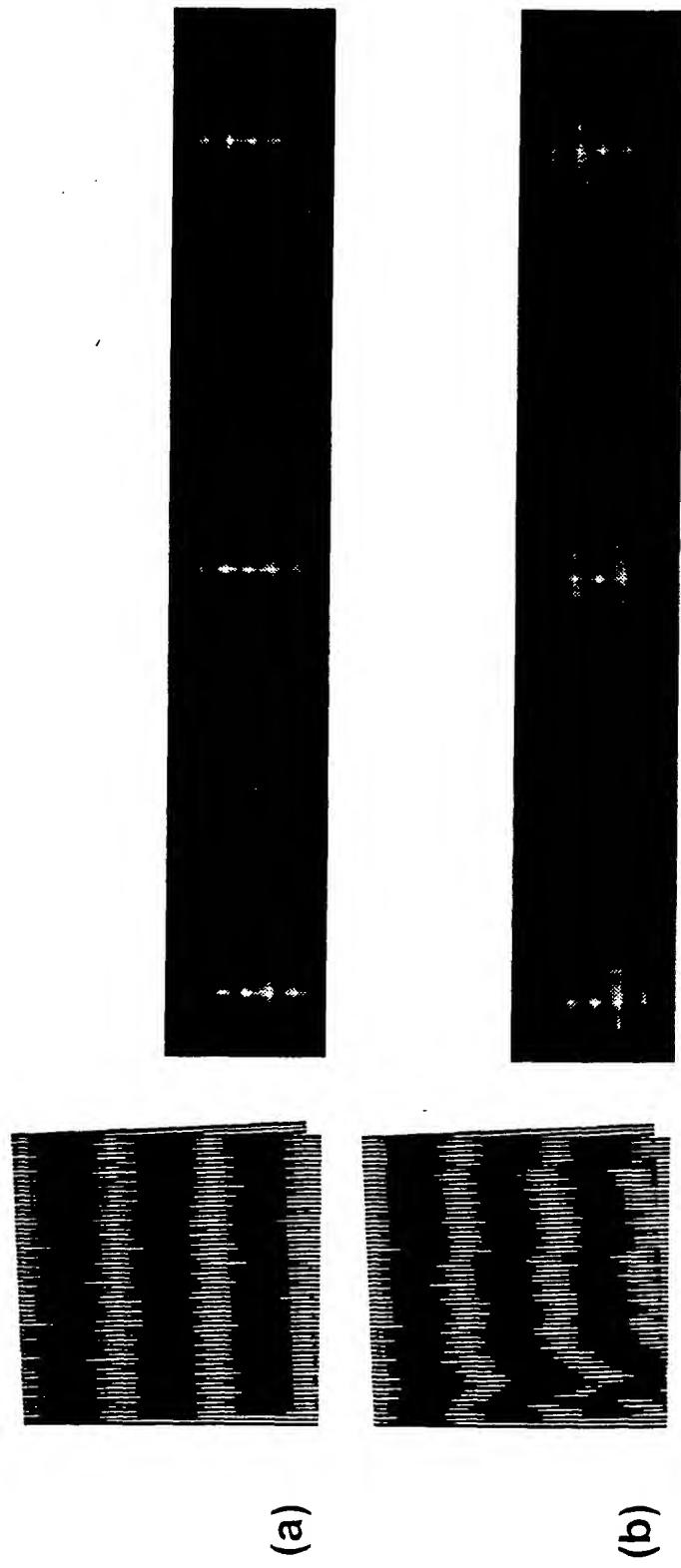


Positive Lens Effect

(b)

Figure 3

Figure 4



12 Spatial Filtered, Collimated HeNe

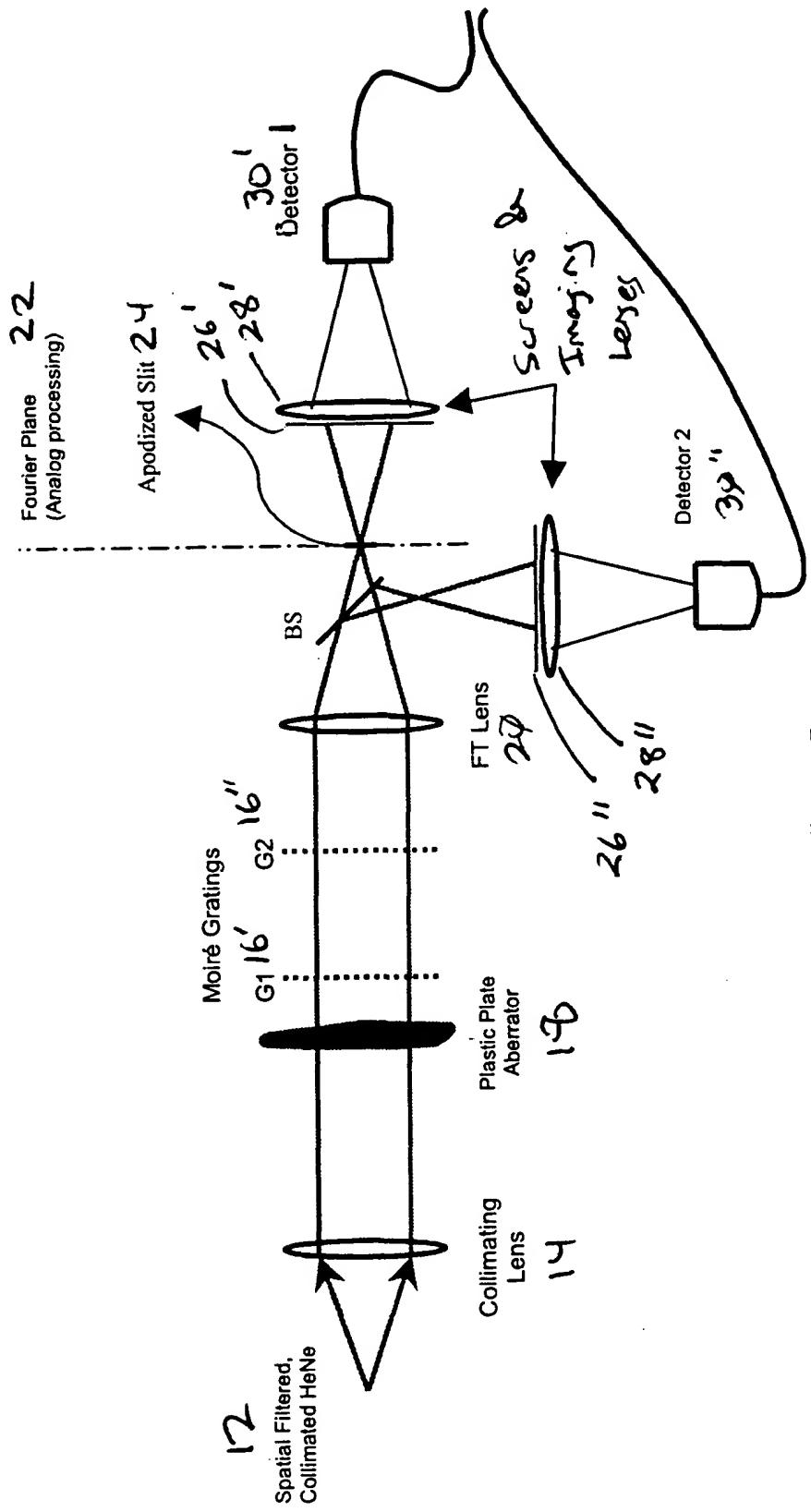


Figure 5

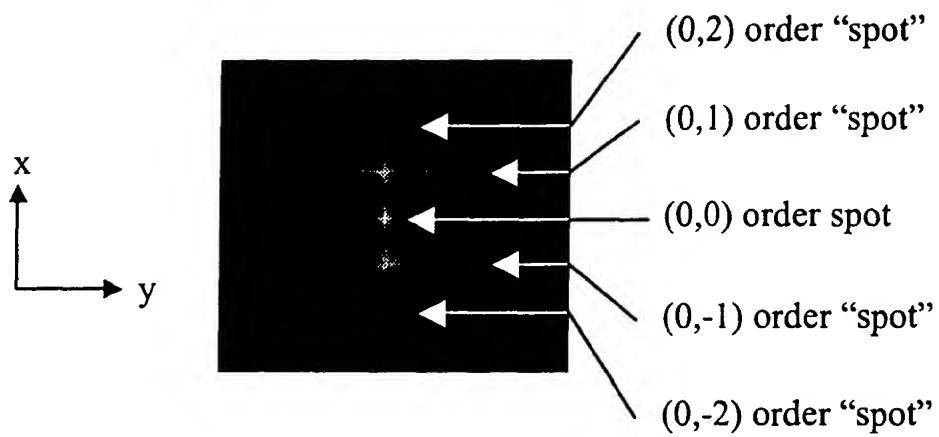


Figure 6

Effect of the slit in the
Fourier plane, on the
image plane.

...produce this moiré
fringe pattern
In the image plane

These frequency
components
at the Fourier plane...

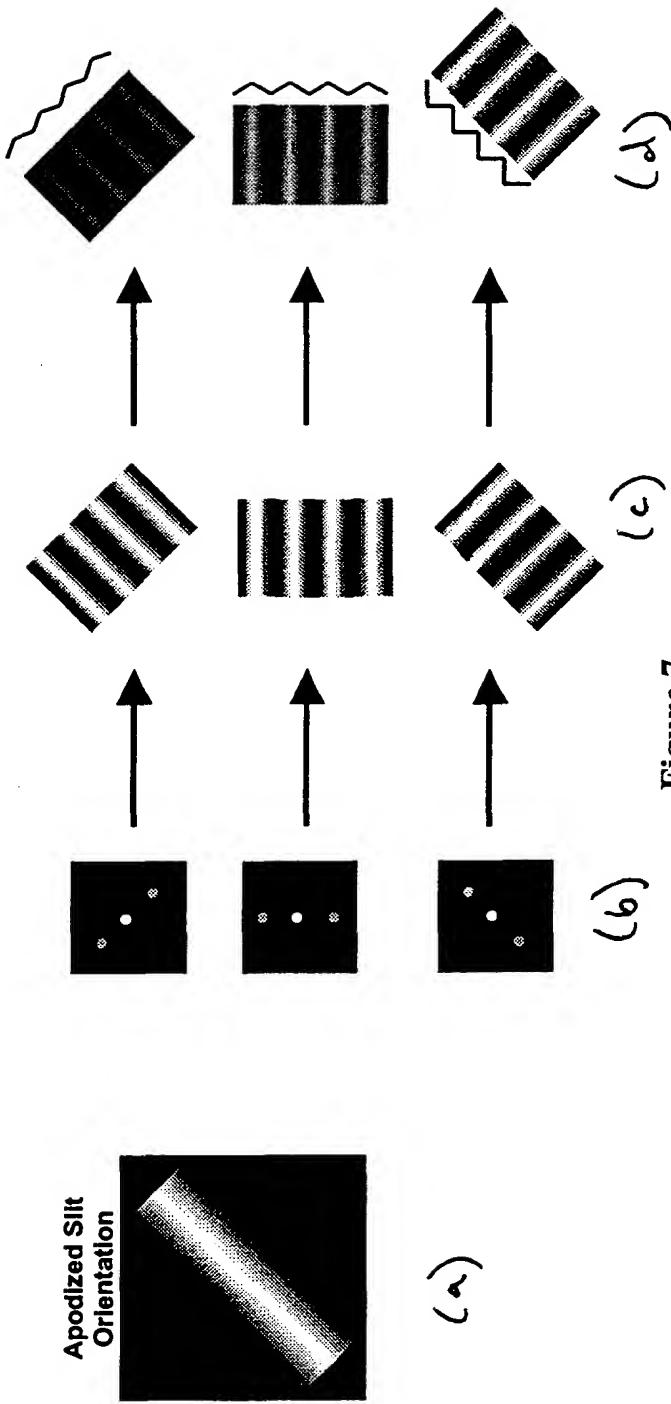
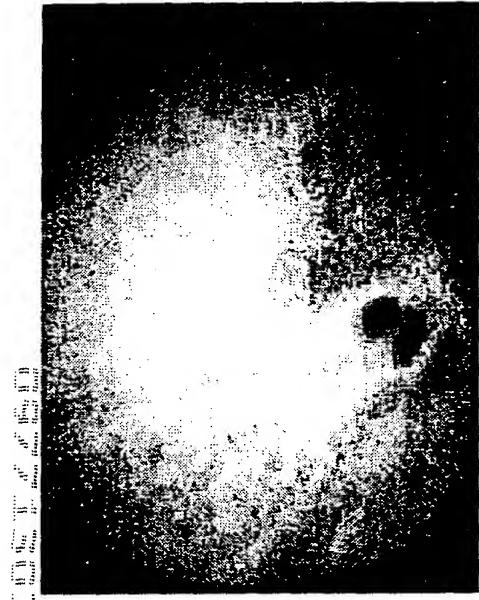


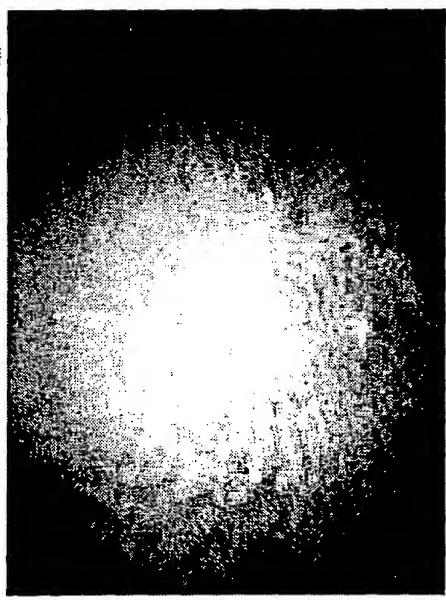
Figure 7



Moiré Deflectogram – Air Slit

- Camera does not resolve fringes.
- Imperfect gratings cause secondary fringes.

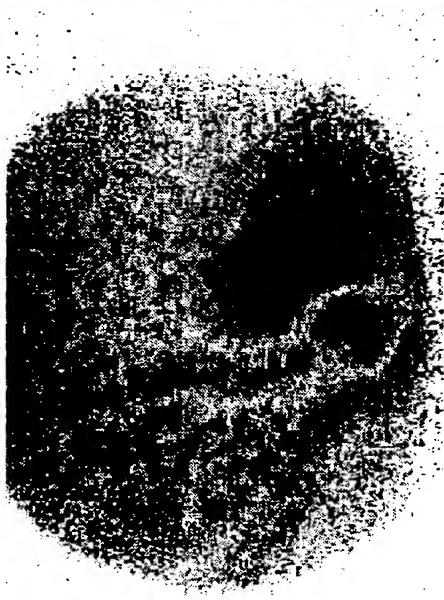
(a)



Moiré Deflectogram Apodized Slit

- Very different intensity pattern.

(b)



Normalized Pattern

- All fringe slope information across the profile has equal weighting.
- Proportional to 2nd waveform derivative.

(c)

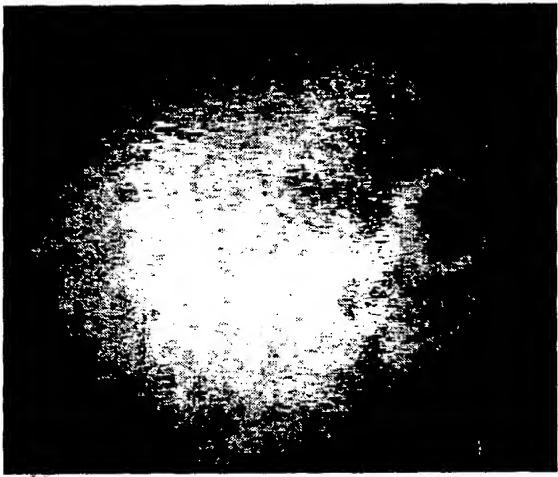


Macroscopic Fringe Deflectogram for Comparison

- Typical deflectogram (camera resolves fringes)

(d)

Figure 8



Moiré Deflectogram -- Air Slit

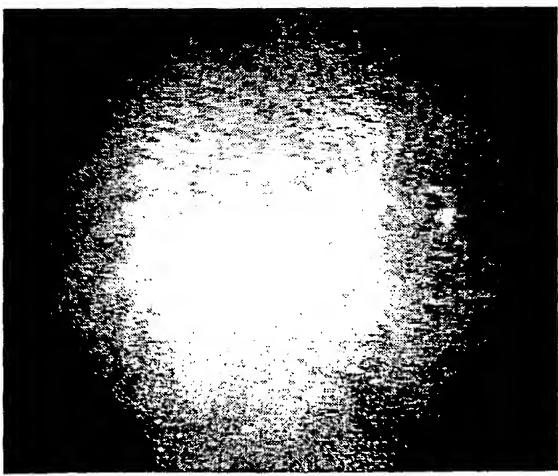
- Camera does not resolve fringes.
- Imperfect gratings cause secondary fringes.

(a)

Moiré Deflectogram -- Apodized Slit

- Very different intensity pattern
- Looks like a 3D surface illuminated from the upper left.

(b)



Normalized Pattern

- All fringe slope information across the profile has equal weighting.

(c)

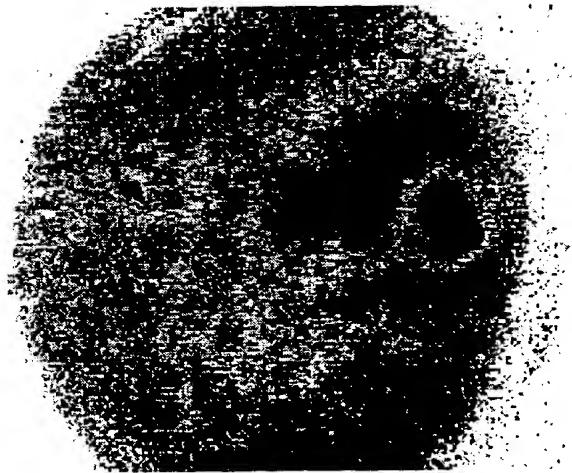


Figure 9